CLAIMS

What is claimed is:

1. A method for producing a pharmaceutical preparation of pressure-fused particles comprising an active pharmaceutical ingredient, the method comprising:

(a) providing a sample comprising said active pharmaceutical ingredient in crystalline or amorphous form;

(b) subjecting said sample to high pressure compaction at a pressure of between 0.1 GPa and 10 GPa to produce a compacted sample; and

(c) isolating pressure-fused particles from said compacted sample.

2. The method of claim 1, wherein said pressure is between 0.5 GPa and 7.5 GPa.

3. The method of claim 1, wherein said pressure is between 1 GPa and 5 GPa.

4. The pharmaceutical preparation of claim 1, wherein said produce pressure-fused microparticles have a density of between 1 g/cm^3 and 40 g/cm^3.

5. The pharmaceutical preparation of claim 1, wherein said produce pressure-fused microparticles have a density of between between 2 g/cm^3 and 20 g/cm^3.

6. The pharmaceutical preparation of claim 1, wherein said produce pressure-fused microparticles have a density of between between 4 g/cm^3 and 10 g/cm^3.

7. The method of claim 1, wherein said compacted sample has a thickness of between 25 μm and 400 μm.

8. The method of claim 1, wherein said compacted sample has a thickness of between 50 μm and 200 μm.

9. The method of claim 1, wherein said compacted sample has a thickness of between 100 μm and 150 μm.

10. The method of claim 1, wherein said pressure is maintained for a period of between 30 sec. and 10 min.

11. The method of claim 1, wherein said pressure is maintained for a period of between 60 sec. and 5 min.

12. The method of claim 1, wherein said pressure is maintained for a period of between 90 sec. and 3 min.

13. The method of claim 1, wherein said pressure-fused particles have a maximum dimension between 20 μm and 800 μm.

14. The method of claim 1, wherein said pressure-fused particles have a maximum dimension between 40 μm and 400 μm.

15. The method of claim 1, wherein said pressure-fused particles have a maximum dimension between 100 μm and 250 μm.

16. The method of claim 1, wherein the step of isolating said pressure-fused particles from said compacted sample comprises sieving said compacted sample through a sieve with an exclusion limit of between 20 μm and 800 μm.

17. The method of claim 1, wherein the step of isolating said pressure-fused particles from said compacted sample comprises sieving said compacted sample through a sieve with an exclusion limit of between 40 μm and 400 μm.

18. The method of claim 1, wherein the step of isolating said pressure-fused particles from said compacted sample comprises sieving said compacted sample through a sieve with an exclusion limit of between 100 μm and 250 μm.

19. The method of claim 1, wherein said sample comprises micronized particles comprising said active pharmaceutical ingredient.

20. A pharmaceutical preparation of pressure-fused particles comprising an active pharmaceutical ingredient, the pressure-fused particles comprising:

an active pharmaceutical ingredient subjected to high pressure compaction at a pressure of between 0.1 GPa and 10 GPa.

21. The pharmaceutical preparation of claim 20, wherein said pressure is between 0.5 GPa and 7.5 GPa.

22. The pharmaceutical preparation of claim 20, wherein said pressure is between 1 GPa and 5 GPa.

23. The pharmaceutical preparation of claim 20, wherein said produce pressure-fused microparticles have a density of between 1 g/cm^3 and 40 g/cm^3.

24. The pharmaceutical preparation of claim 20, wherein said produce pressure-fused microparticles have a density of between between 2 g/cm^3 and 20 g/cm^3.

25. The pharmaceutical preparation of claim 20, wherein said produce pressure-fused microparticles have a density of between between 4 g/cm^3 and 10 g/cm^3.

26. The pharmaceutical preparation of claim 20, wherein said pressure-fused particles have a maximum dimension between 20 μm and 800 μm.

27. The pharmaceutical preparation of claim 20, wherein said pressure-fused particles have a maximum dimension between 40 μm and 400 μm.

28. The pharmaceutical preparation of claim 20, wherein said pressure-fused particles have a maximum dimension between 100 μm and 250 μm.